



Figure 1

Figure 2

	1	50
Arabidopsis	(1) --MHWTATRNAVVSFPKWR--FFRSSMRTYSSLPSSPILNRRYSEG	
Common Bean	(1) --MYRAVIRNVAVFLPRCRSLSHSHSLFPFESSLPSPRFLRINCRVKNV	
Soybean	(1) --MYRVATRNVAFFPRCCSFAHYTPSLFPITSFAPSRFLRINCCVKNV	
Rice	(1) MAMQRLASSLVAATPRWLP-----VAADSFLRRHRPRCSPLPALLFNR	
Tomato	(1) --MYWVTAKNVVSVPRWR-----SLSLFLRPPLRRRFLSFSPTLTC	
Consensus	(1) MYRV TRNVVS PRWR F SSF F S PSR L ING V N	
	51	100
Arabidopsis	(46) ISCLRDKSLKRITTASKKVKTSDDLTKDLSHLVWKKERLOTCKKPSST	
Common Bean	(49) STYMDNRRVSRGSSRTTKKPKVPNNVLDDKDLPHISWWKERLOMCKKFSST	
Soybean	(49) PSYTDKKVS-RGSSRAATKKPKIPNNVLDDKDLPHILWWKERLOMCKKFSST	
Rice	(46) RSWSKPRKVSRSISIVSRKMNKQGDLCNEGMLPHILWWKEKMERCKKPSST	
Tomato	(41) REQTRCVKERKFFATTAKKQKSTPEEKDYVNTMWWKERMEFLRKPSST	
Consensus	(51) SYIR K R S SKKLK P VLDDKDLPHILWWKERLO CRKPSST	
	101	150
Arabidopsis	(96) MQLTERLMYTNLGLDPSLRNGSLKDGNLNWEMLQFKSRFPREVLLCRVG	
Common Bean	(99) VQLTORLEESNLLGLDSKLKNGSVKEGTLNWEMLQFKSKFPRQVLLCRVG	
Soybean	(98) VQLTERLEESNLLGLNSNLKNGSLKEGTLNWEMLQFKSKFPRQVLLCRVG	
Rice	(96) MQLTQRLVYSNLLGLDPSLRNGSLKDGSLNTEMLQFKSKFPREVLLCRVG	
Tomato	(91) ALLAKRLTYCNLLGMDPSLRNGSLKEGTLNSEMLQFKSKFPREVLLCRVG	
Consensus	(101) VQLI RL YSNLLGLDPSLRNGSLKEGTLNWEMLQFKSKFPREVLLCRVG	
	151	200
Arabidopsis	(146) EFYEATGIDACILVEYAGLNPFGLRSDSIPKAGCPVNNLRQTLDDLTRN	
Common Bean	(149) EFYEAWGIDACILVEYAGLNPCGGLOSDSVPRAGCPVNNLRQTLDDLTON	
Soybean	(148) EFYEAWGIDACILVEYVGLNPIGGLRSDSIPRASCVPVNNLRQTLDDLTTN	
Rice	(146) DFYEAVGFDACILVEHAGLNPFGLRSDSIPKAGCPVNNLRQTLDDLTRC	
Tomato	(141) DFYEATGFDACILVEYAGLNPFGLHSDSIPKAGCPVNNLRQTLDDLTRN	
Consensus	(151) EFYEATGIDACILVEYAGLNPFGLRSDSIPKAGCPVNNLRQTLDDLTRN	
	201	250
Arabidopsis	(196) GYSVCIVEEVQGPQPARSRKGRFISGHAHPGSPYVYGLVGVMDHDLDFPDP	
Common Bean	(199) GYSVCILEEVQGPQARSRKRRFISGHAHPGNPYVYGLAAVDHDLNFPPEP	
Soybean	(198) GYSVCIMEEAQGPSQARSRKRRFISGHAHPGNPYVYGLATVDHDLNFPPEP	
Rice	(196) GYSVCIMEETQGPQPARSRKGRFISGHAHPGSPYVEGLAEVDHDLDFPDP	
Tomato	(191) GYSVCIVEEVQGPQPARSRKSRFISGHAHPGSPYVEGLVXDDQDLDFPPEP	
Consensus	(201) GYSVCIVEEVQGPQARSRK RFISGHAHPGSPYVYGLA VDHDLDFPPEP	
	251	300
Arabidopsis	(246) MPVVGISRSARGYCIISVLETMKTYS EDGLTEEAVVTKLRTRCRYHHLFL	
Common Bean	(249) MPVVGISHSARGYCTNMVLETMKTYSYEDCLTEEAVVTKLRTCQYHHLFL	
Soybean	(248) MPVVGISHSARGYCTNMVLETMKTYSSEEDCLTEEAVVTKLRTCQYHHLFL	
Rice	(246) MPVVGISRSARGYCTISVLETMKTYSAEGLTEEAVVTKLRICRYHHLML	
Tomato	(241) MPVVGISRSARGYCTISVLETMKTYSVEDGLTEEAVVTKLRTRCRYHHLFL	
Consensus	(251) MPVVGISRSARGYCIISVLETMKTYS EDGLTEEAVVTKLRTRCRYHHLFL	
	301	350
Arabidopsis	(296) HASLRHNASGTCRWGEFGEGLLWGECSRNFEWFEEDTLSELLSRVKDV	
Common Bean	(299) HTSLTODSCGTSKWGEFGEGLLWGECSRHFEWFDGSPISDLLVKVKEL	
Soybean	(298) HTSLRRNSCGTCNWGEFGEGLLWGECSRHFDWFDGNPISDLLAKVKEL	
Rice	(296) HSSLRNSSSGTSRWGEFGEGLLWGECSGKSFEWFDGNPTEELLCKVRET	
Tomato	(291) HNSLRNNSSSGTSRWGEFGEGLLWGECSNARQOEWLGNPTEDELLFKVKEL	
Consensus	(301) HTSLRNSSSGTSRWGEFGEGLLWGECSR FEWFDGNPISELL VKVEL	
	351	400

Figure 3

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Arabidopsis	(346)	YGLDDEVSFRRNVNPSKNRPRPLHLGTATQIGALPTEGIPCLLKVLLPST	450
Common Bean	(349)	YGLDDEVTFRRNTTVSSRHRARPLTLGTSTQIGATHTEGIPSLKLVLLSPS	
Soybean	(348)	YSLDDEVTFRRNTTVSSGHRARPLTLGTSTQIGALPTEGIPSLKLVLLPSN	
Rice	(346)	YGLEEKTVFRNVSVSLEGRBQPLMLGTATQIGVLPTEGIPSLKLVLLPPN	
Tomato	(341)	YGLNDDIPFRNVTVVSENRRPLHLGTATQIGALPTEGIPCLLKVLLPPH	
Consensus	(351)	YGLDDEVTFRRNVTVSS RPRPLHLGTATQIGAIPTEGIPSLKLVLLPP	
Arabidopsis	(396)	CSGLPSLYVRDLLLNPPAVDTALKIQETCKLMSSVTCSIPFTCVSSAKL	500
Common Bean	(399)	CNGLPVLYIRNLLLNPPSYETASKIQETCKLMSSVTCSIPFTCVSSAKL	
Soybean	(398)	CNGLPVLYIRDLLLNPPSYETASKIQETCKLMSSVTCSIPFTCVSSAKL	
Rice	(396)	FGGLPSLYIRDLLLNPPSFDAVASSVOEACRLMGSTTCSIPFTCVSSAKL	
Tomato	(391)	CSGLPVLYIRDLLLNPPAVETSSDIQETCKLMSSVTCSIPFTCVSSAKL	
Consensus	(401)	C GLPVLYIRDLLLNPPSYETASKIQETCKLMSSVTCSIPFTCVSSAKL	
Arabidopsis	(446)	VKLEQREANVHIEFCRIKNVLDVLMHHRHAEIVELIKLLMDPTWVATGL	550
Common Bean	(449)	VKLEWREVNHHIEFCRIKNVLDVLMHMYKTSSELNEILKHLMDPTWATGL	
Soybean	(448)	VKLEWREVNHHIEFCRIKNVLDVLMYSTSELNEILKHLMDPTWVATGL	
Rice	(446)	VKLESKEVNHHIEFCRIKNVLDVLMFGSNVLSAIVNKLMDPAATVTGF	
Tomato	(441)	VKLELREANVHIEFCRIKSNVBEILQYRNSLRATVELMDPTWVATGL	
Consensus	(451)	VKLE REVNHHIEFCRIKNVLDVIL MYR SEL EILK LIDPTWVATGL	
Arabidopsis	(496)	KIDFDTLVNECHWASDTIGEMTSDENESHQNVSKCDNVPNEFFYDMESS	600
Common Bean	(499)	DIDFDTLVSGCEVASSKISETISIDCGN-DQKINSLSIIPYEFFEDTESK	
Soybean	(498)	EIDFDTLVAGCEIASSKIGETVSDDEN-DQKINSFSFIPHEFFEDMESK	
Rice	(496)	KVEADILVNECSFISORIAEVISLGGES-DOATTSSEYIPKEFFENGMESS	
Tomato	(491)	KVDFDTLVNECGKISCRISETISVHGEN-DQKISSYPINPNDFEDMELL	
Consensus	(501)	KIDFDTLVNEC AS KISEIISLDGEN DQKISS IP EFFEDMES	
Arabidopsis	(546)	WKGRVKRIHIEEFTVEKSAEALSTAVAEDFHPITSRIRKATTAAPLGGPK	650
Common Bean	(548)	WKGRVKRIHIDEVETAVQKAAEVLHIAVTEDFVPVSRVKATTAAPLGGPK	
Soybean	(547)	WKGRVKRIHIDDDVETAVEKAAEALHIAVTEDFVPVSRIRKATTAAPLGGPK	
Rice	(545)	WKGRVKRIHAAEEESNVDAIAEALSTAVIEDEFTISRIRKATTAAPLGGPK	
Tomato	(540)	WKGRVKRIHIEEHAIAEVEKAADALSTAVTEDFHPITSRIRATMAPLGGTK	
Consensus	(551)	WKGRVKRIHIEE FT VEKAAEALSIAVTEDFLPIISRIRKATMAPLGGPK	
Arabidopsis	(596)	GEISYAREHEAVWFKGKRFTPSLWAGTAGEEQIKQLRPALDSKGGKVGE	700
Common Bean	(598)	GEISYAREHEAVWFKGKRFTPSLWAGTAGEEQIKQLRHALDSKGGKVGE	
Soybean	(597)	GEISYAREHEAVWFKGKRFTPSLWAGTAGEEQIKQLRHALDSKGGKVGE	
Rice	(595)	GEISYAREHEAVWFKGKRFTPSLWAGTAGEEQIKQLRPALDSKGGKVGE	
Tomato	(590)	GEISYAREHEAVWFKGKRFTPSLWAGTAGEEQIKQLRHALDSKGGKVGE	
Consensus	(601)	GEISYAREHEAVWFKGKRFTPSLWAGTAGEEQIKQLRPALDSKGGKVGE	
Arabidopsis	(646)	WFTTPKVEALTRYHEASENAKRVLELLRGLSELQKINILVFASMLL	
Common Bean	(648)	WFTTPKVEALTRYHEANAKATERVLELLRGLSELQKINILVFASMLL	
Soybean	(647)	WFTTPKVEALTRYHEANAKAKERVLELLRGLSELQKINILVFASMLL	
Rice	(645)	WFTTIKVENALTRYHEACDNARKRVLELLRGLSELQKINILVFASMLL	
Tomato	(640)	WFTTMKVEDALTRYHEASAKAKRVLELLRGLSELQKINILVFASMLL	
Consensus	(651)	WFTTPKVE ALTRYHEA AKAK RVLELLRGLSELQ KINILVFASMLL	

Figure 3 (cont'd)

		701		750
Arabidopsis	(696)	VISKALFSAHACEGRRRKWVEPTTVGFSLDEGAKPLDGASRMKLTGLSPYW		
Common Bean	(698)	VITKALFAHASEGRRRRRWVEPTTAAESNGFEDVKSSDKIHGMKIVGLAPYW		
Soybean	(697)	VIKALFAHASEGRRRRRWVEPTTVESHGFEDVKSLDKIHGMKISGLLPYW		
Rice	(695)	VITKALFGHVSEGRRRGWLPNTISP--LCKDNVTEFISSEMEISGTFPYW		
Tomato	(690)	VIKSLFSAHVSEGRRRNWVEPTTQFNKCDTEANGIDGMKILIGLSPYW		
Consensus	(701)	VITKALFAHASEGRRRRRWVFTL	ED KSLD T GMKISGLSPYW	
		751		800
Arabidopsis	(746)	FDVSSGTAVHNTVDMOSTFLLTGPNGGGKSSILRSICAAALLGTSGLMVP		
Common Bean	(748)	FHTAEG-IVRNDVDMOSTFLLTGPNGGGKSSILRSICAAALLGTGGLMVP		
Soybean	(747)	FHTAEG-VVRNDVDMOSTFLLTGPNGGGKSSILRSICAAALLGTGGLMVP		
Rice	(743)	LDTNQGNATLNDVHMHSIFLLTGPNGGGKSSILRSVCAAALLGTGGLMVP		
Tomato	(740)	FDAAARGTEVQDTVDMQSMFLLTGPNGGGKSSILRSICAAALLGMCGFMVP		
Consensus	(751)	FDIA G AV NDVDMQSLFLLTGPNGGGKSSLLRSICAAALLGICGLMVP		
		801		850
Arabidopsis	(796)	AESACIPHFDSIMLHMKSYS DSPVDGKSSFOVEMSEIRSLVSOATSRSLVL		
Common Bean	(797)	AESAVIPYFDSITLHMKSYS DPADKKSSFOVEMSEIRSLIGGTTKRSLVL		
Soybean	(796)	AESAVIPYFDSITLHMKSYS DPADKKSSFOVEMSEIRSLIGGTTNRSLVL		
Rice	(793)	AASAVIPHFDSIMLHMKAYS DPADGKSSFOVEMSEIRSLVCRATARSRLVL		
Tomato	(790)	AESAVIPHFDSIMLHMKSYS DSPVDGKSSFOVEMSEIRSLITGATSRSLVL		
Consensus	(801)	AESAVIPHFDSIMLHMKSYS DPADGKSSFOVEMSEIRSLI GATSRSLVL		
		851		900
Arabidopsis	(846)	IDEICRGTTETAKGTCTIAGSVVESLDTSGCEGLVSTHLHGIFSLPLTAKNI		
Common Bean	(847)	VDEICRGTTETAKGTCTIAGSIETLEPIGCEGLVSTHLHGIFLPLNKKSI		
Soybean	(846)	VDEICRGTTETAKGTCTIAGSIETLDGIGCEGLVSTHLHGIFLPLNKKNI		
Rice	(843)	IDEICRGTTETAKGTCTIAGSIETLERLDNVGCEGLVSTHLHGIFDLPLSHNT		
Tomato	(840)	IDEICRGTTETAKGTCTIAGSVIETLDEIGCEGLVSTHLHGIFDLPLKIKKI		
Consensus	(851)	IDEICRGTTETAKGTCTIAGSIETLD IGCEGLVSTHLHGIFTPL IKNT		
		901		950
Arabidopsis	(896)	TVKAMGAENVEGOTKPTWKLTDGVCKESLAFETAKREGMPESVIRAEAL		
Common Bean	(897)	VHKAMGTTCTIDGQIPTWKLTDGVCKESLAFETAIREGIPPEPIIRAECL		
Soybean	(896)	VHKAMGTTSIDGQIPTWKLTDGVCKESLAFETAKREGIPPEHIVIRAEYL		
Rice	(893)	DFKAMGTEITDRCTOPTWKLMDCICRESLAFQTARKEGMPDLIRRAEEL		
Tomato	(890)	VHKAMGAEYVDGQIPTWKLTDGICCKESLAFETAOREGIPPEIIRAEEL		
Consensus	(901)	VHKAMGTE IDGQIPTWKLTDGVCKESLAFETAKREGIPE IIRAE L		
		951		1000
Arabidopsis	(946)	YLSVYAK-----DASEVVKPDQITSSNN-----DQIQKPV		
Common Bean	(947)	YKSVA-----EENFPNEEFSTCINNINNNTSTY-----SKGFLSGA		
Soybean	(946)	YQLVYAKEMLFAENFPNEEFSTCINNINNNGTHH-----SKRFLSGA		
Rice	(943)	YLAMSTN-----SKHTSSAVHHEISTANSTVNSTVEKPNYLNRNGLELOS		
Tomato	(940)	YNSAVGNQIPRKIDQIRPLRSIDIDNSTDNSSDQINGTRQIALDSSTKLM		
Consensus	(951)	Y SVYA	EK S INI NL TTSL	A
		1001		1050
Arabidopsis	(979)	SSERSLEKDLAKATVKICGKKMTEP-----EATECTSIGARELPPP		
Common Bean	(986)	NQMEGFROEVERAITVICQDYIMERKNKKIALETPETKCLLIGKREOPPP		
Soybean	(990)	NQMEVUREEVERAVTVICQDHKKDKCKIALETPETKCLLIGKRELPPP		
Rice	(987)	GSFGLRKELESVVTTCCKKLLDYNKRSISELIEVVCMAVGAREOPPP		
Tomato	(990)	HRMGITSSKKLEDAITCLICEKKLIELYKMNPNSEMPMNCVLLTAAREOPAP		
Consensus	(1001)	M ILRKELERAITVIC KKIIE L KK	EL EI CLIGAREQPPP	
		1051		1100

Figure 3 (cont'd)

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Arabidopsis	SEQ ID NO: 3
Common Bean	SEQ ID NO: 47
Soybean	SEQ ID NO: 31
Rice	SEQ ID NO: 22
Tomato	SEQ ID NO: 40
Consensus	SEQ ID NO: 65

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